

REMARKS

A petition for a one month extension of time has today been filed as a separate paper and a copy is attached hereto.

Support for newly added claim 15 and the language added by amendment to claim 1 is found in applicants' specification in paragraph [0042] at page 11 of the specification.

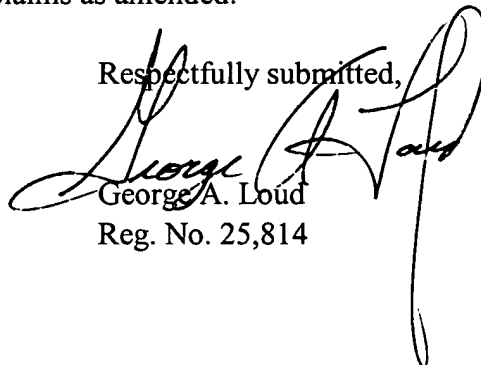
As taught in applicants' specification in paragraph [0042], in accordance with the present invention the cathode must be water-repellent "to prevent water deposition on the surface thereof which would decrease the effective surface area." The examiner's primary reference in the form of U.S. 6,376,110, at column 2, lines 5-15 teaches much the same, i.e., an excess of water will result in the flooding of the electrodes in such a way that the "pores of the electrodes are clogged." However, Koschany adopts the approach of correlating an electrical value with the moisture of the polymer membrane and adjusting moisture, responsive to the detected average value of the electrical value by one or more of the techniques, for example, as recited by claim 11 of U.S. 6,376,110. Neither Koschany nor any of the secondary references discloses or suggests rendering the cathode water-repellant, much less providing a water-repellant cathode in the form of a carbon cloth with embedded PTFE. Accordingly, the prior art rejections are all traversed on the basis that none of the references, either alone or in combination, disclose or suggest the aforementioned feature of applicants' invention as now claimed.

Power generation of a fuel cell is greatly dependent upon control of the moisture content of the electrolyte membrane. In the present invention, it is possible to maintain a suitable moist condition for the membrane with water generated at the cathode side of the membrane, the generated water permeating through the membrane to the anode side to prevent drying on the anode side accompanying the movement of hydrogen ions. Because the present invention utilizes liquid water supplied into contact with the cathode, the gas permeation through the cathode is thereby susceptible to blockage by the liquid water and dictates the use of a water-repellant cathode so as not to impede gas flow therethrough.

The rejections for double patenting as set forth in paragraphs 10-14 of the office action are believed to be obviated by the Terminal Disclaimer submitted herewith.

In conclusion, it is respectfully requested that the examiner reconsider the rejections of record with a view toward allowance of the claims as amended.

Respectfully submitted,



George A. Loud
Reg. No. 25,814

Dated: February 9, 2004

LORUSSO, LOUD & KELLY
3137 Mount Vernon Avenue
Alexandria, VA 22305
(703) 739-9393